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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,507	07/15/2004	Masayoshi Handa	1422-0635PUS1	8270

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EXAMINER

BERNSHTEYN, MICHAEL

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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05/22/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/501,507	Applicant(s) HANDA ET AL.	
	Examiner MICHAEL M. BERNSHTEYN	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action follows the responses filed on October 2, 2008 and December 31, 2008. No claims have been amended or cancelled; claim 9 has been added.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 2, 2008 has been entered.
3. Claims 1-7 and 9 are active.

Claim Rejections - 35 USC § 103

4. The text of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.
5. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Nosokawa et al. (EP 0 889 063 A1) in view of Shimomura et al. (U. S. Patent 4,959,060), and comments below.
6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Nosokawa et al. (EP 0 889 063 A1) in view of Shimomura et al. (U. S. Patent 4,959,060).

With regard to the limitation of instant claim 9, Nosokawa discloses a process for preparing of a super absorbent resin composition comprising the following components

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.(A), (B) and (C), or components (A) and (D): (A) a super absorbent resin; (B) a metal compound containing at least one metal A selected from the group consisting of titanium and zirconium; (C) a chelating agent, and (D) a coordination compound in which component (C) is coordinated with metal (A) (abstract).

Nosokawa discloses that after the completion of the polymerization of acrylic acid in the .presence of ethyl cellulose as a dispersant, aqueous solution of sodium hydroxide, ion-exchanged water and potassium persulfate, the super absorbent resin was obtained (Synthesis examples 1-7, page 9, line 44 through page 11, line 15). Then the super absorbent resin (A) was put in a twin-cylinder kneader, and the metal compound (B) and the chelating agent (C) were added thereto in the adjusted amounts either in a powder form or by spraying an aqueous solution thereof. The mixture was thoroughly stirred to mix to obtain a super absorbent resin composition (Table 2, Examples 1-11, page 11, line 15 through page 12).

Nosokawa discloses preferred examples of the chelating agent as component (C) are **ethylenediaminetetraacetic acid (EDTA), tripolyphosphoric acid, polyphosphoric acid**, etc. or salts thereof (e.g., Na, K or ammonium salt) (page 5, line 57 through page 7, line 46). The chelating agent as component (C) is preferably used in an amount **of 0.01 to 5 parts by weight**, particularly 0.05 to 2 parts by weight, per 100 parts by weight of super absorbent resin as component (A), which is within the claimed range (page 7, lines 50-51).

Component (C) may be coordinated with metal A, and the compound (metal chelate compound) in which component (C) is coordinated with metal A is referred to component (D) (pages 7-8, the bridging paragraph).

Nosokawa discloses that if desired, the super absorbent resin composition can contain various additives, such as **reducing agent**, etc. which can be added in a total amount of not more than 50% by weight based on the total weight of super absorbent resin composition (page 8, lines 10-13).

With regard to the limitation of instant claim 9, step c), Nosokawa does not disclose adding a reducing or an oxidizing agent to the polymerized water-containing gelated product in an amount of 0.001 to 6 parts by weight based on 100 parts by weight of the α -unsaturated carboxylic acid.

Shimomura discloses that a body fluid-absorbing article such as, for example, a disposable diaper is provided with at least one absorbent member comprising 50 to 99% by weight of a fibrous material and 50 to 1% by weight of an absorbent polymer, which absorbent member contains at least one compound (A) selected from the group consisting of sulfur-containing **reducing agents**, antioxidants, and **oxidizing agents**.

By the action of the compound (A), the swelled gel of the absorbent polymer formed in consequence of absorption of body fluid is prevented from being deteriorated or decomposed by aging (abstract).

With regard to the limitation of instant claim 9, step c), Shimomura discloses several examples of the method for the incorporation of the compound (A) in the body fluid-absorbent member, for example, (3) method which causes the compound (A) to be

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contained in layers in the absorbent member by spraying a solution or dispersion of the compound (A) on the absorbent polymer then drying the wet absorbent polymer, when necessary, thereby producing a composite having the compound (A) deposited on the absorbent polymer, and then having this composite interposed between at least two sheets of the fibrous material, etc. (col. 4, line 35 through col. 5, line 27).

These compounds (A) is desired to be contained in the body fluid absorbent member in an amount in the range of 0.05 to 20 parts by weight, preferably **0.1 to 10 parts by weight**, based on 100 parts by weight of the absorbent polymer, which is within the claimed range (col. 3, lines 48-52).

Both references are analogous art because they are from the same field of endeavor concerning water-absorbent resin compositions for body fluid-absorbing articles.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a reducing agent or an oxidizing agent in the adjusted amount to the polymerized water-containing gelated product as taught by Shimomura in Nosokawa's process for preparing a water-absorbent resin with reasonable expectation of success. Such body fluid-absorbing article can be used efficiently as disposable diaper, sanitary napkin, or sweat pad because the absorbent polymer-containing absorbent member neither permits gradual deterioration of the ability thereof to hold the absorbed body fluid nor suffers from sideways leakage of the absorbed body fluid (US'060, col. 5, lines 58-64), and thus to arrive at the subject matter of instant claim 1, step c).

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With regard to the limitations of instant claim 9, step d), Nosokawa exemplifies that the superabsorbent resin was **dried** at 80 to 100⁰C under reduced pressure of 50 Torr (page 10, line 5).

With regard to the limitations of instant claim 9, step d), the combined teaching of Nosokawa and Shimomura does not disclose that yielding a polymerized water-absorbent resin has greater discoloration resistance than a polymerized water-absorbent resin having no reducing or oxidizing agent and no metal chelating agent added thereto.

However, in view of substantially identical process and ingredients for preparing a water-absorbent resin composition between Nosokawa and Shimomura, and instant claims, it is the examiner's position that the final product of Nosokawa and Shimomura's process for preparing the water-absorbent resin is the water-absorbent composition which possesses these properties. Since the USPTO does not have equipment to do the analytical test, the burden is now shifted to the applicant to prove otherwise. **In re Best** (CCPA 1980). 195 USPQ 430, (CCPA 1977).

Response to Amendment

7. The Declaration under 37 CFR 1.132 filed on December 12, 2008 is insufficient to overcome the rejection of claim 1-7 based upon 35 U.S.C. 103(a) as being unpatentable as obvious over Nosokawa et al. (EP 0 889 063 A1) in view of Shimomura et al. (U. S. Patent 4,959,060) as set forth in the last Office action because of the following.

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8. It appears that the focal argument resides in the contention that as it can be seen from Table I, the superabsorbent resin of EP'063 with or without reducing agent after having allowed to stand for 20 days at 50°C and 90% relative humidity have an yellow index exceeding 12; thus in the superabsorbent resin of EP'063 with or without reducing agent, an equivalent level of an effect of preventing coloration to that of the water-absorbent resin obtainable according to the present invention cannot be obtained (pages 5-6).

9. It is noted that in the absence of showing criticality in the Declaration and in the specification of adding a reducing agent or an oxidizing agent to the polymerized water-containing gelated product in an amount of 0.001% to 6% by weight, based on 100 parts by weight of the α,β -unsaturated carboxylic acid, it is the examiner position to believe that the final product of Nosokawa and Shimomura's process for preparing the water-absorbent resin is the water-absorbent composition which possesses an equivalent level of an effect of preventing coloration to that of the water-absorbent resin obtainable according to the claimed invention, because they contain substantially identical steps of the preparation and ingredients.

10. It is worth to mention that Applicants can rebut *a prima facie* case of obviousness based on overlapping ranges by showing the criticality of the claimed range. "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919

F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 716.02 - § 716.02(g) for a discussion of criticality and unexpected results.

It is noted that the Declaration and the specification (page 31, Table 2) do not show the criticality of the claimed range because the only example in the Declaration and the Examples 1-8 contain the amount of a reducing agent or an oxidizing agent within the claimed range 0.001 – 6% by weight; there are no examples with the amounts of the reducing agent or the oxidizing agent, which are out of the claimed range.

Response to Arguments

11. Applicant's arguments filed on December 31, 2008 have been fully considered but they are not persuasive.

12. It appears that the focal Applicants' argument resides in the contention that according the Declaration of Mr. H. Yokoyama, Applicants submit that water-absorbent resins in accordance with the present invention have a yellow index of less than 12, after standing for 20 days at 50°C and 90% relative humidity (pages 2-3, the bridging paragraph). It should be noted that there is a substantial difference between the Yellow Index of the present invention and that of Hosokawa '063 (page 3).

13. It is noted that the detailed response for this argument is made in paragraphs 9 and 10 of current Office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL M. BERNSHTEYN whose telephone number is (571)272-2411. The examiner can normally be reached on M-Th 8-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael M. Bernshteyn/
Examiner, Art Unit 1796

/M. M. B./
Examiner, Art Unit 1796

/David Wu/
Supervisory Patent Examiner, Art Unit 1796